Isoquinoline Alkaloids from *Cardiopetalum calophyllum*

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As a continuation of our phytochemical work on some Annonaceae, we now report the analysis of the alkaloidal content of *Cardiopetalum calophyllum* Schlecht (1). *C. calophyllum* is the only species of *Cardiopetalum* described, the heart-shaped petals of the plant being the origin of the genus name. This small tree or brush mainly grows in dry areas of Brazil and East Bolivia (2).

During our study of the trunk barks, eight known alkaloids have been isolated. They are isoquinolone (*N*-methyl-6,7-dimethoxyisoquinolone), aporphines [(+)-isoboldine, (–)-anonaïne, (–)-norushinsunine, and (–)-asimilobine], oxaporphine (liriodenine), morphinanedienone [(–)-pallidine], and bisbenzyltetrahydroisoquinoline [(–)-dauricine]. These results are summarized in Table 1.

These alkaloids are widespread in the Annonaceae family except for (–)-dauricine which is more often found in the Menispermaceae (3, 4).

The plant material (trunk branks) was collected on 09/05/87 by one of us in East Bolivia (Fatima de Chimanes). A voucher specimen (ref. AF 775) is deposited at the herbarium of ORSTOM-IBBA at La Paz. The crude alkaloids (0.43 %) were obtained from the powdered defatted bark (1.02 kg) following a classical procedure (9). Specific extraction was followed by MPLC on silica gel. Elution was with $CHCl_3$ gradually enriched with MeOH. Final purification was by preparative TLC on silica gel.

Identification of each compound was carried out by comparison of its physical and spectral data with those already published and by cochromatography (TLC) with authentic samples as indicated in Table 1.

Table 1 Alkaloids isolated from *C. calophyllum* trunk bark.

Compound	Content*	Identification	Ref.
N-methyl-6,7-dimethoxy-isoquinolone	4.3	IR, UV, EIMS, ^{1}H-NMR	5
(+)-isoboldine	0.7	IR, UV, EIMS, ^{1}H-NMR, TLC	6
(–)-anonaïne	1.2	IR, UV, EIMS, ^{1}H-NMR	6
(–)-asimilobine	4.7	IR, UV, EIMS, ^{1}H-NMR	6
(–)-norushinsunine	15.1	IR, UV, EIMS, ^{1}H-NMR	6
liriodenine	19.1	IR, UV, EIMS, ^{1}H-NMR, TLC	6
(–)-pallidine	2.7	IR, UV, EIMS, ^{1}H-NMR	7
(–)-dauricine	6.4	IR, UV, EIMS, CIMS, ^{1}H-NMR	4,8

* Percentage of the total alkaloidal content.

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